p-tert-butylcatechol in assembly oil. Depigmentation with this chemical could be reproduced in black guinea pigs, but not in human volunteers. The postulated biochemical basis for depigmentation is competitive inhibition of tyrosinase, the enzyme which catalyzes the oxidation of tyrosine to melanin.

Depigmentation is often a distressing symptom to patient and physician alike. When it occurs on the arms and forearms, environmental phenolic contactants should be sought before the diagnosis of vitiligo is made.

ROBERT M. ADAMS, M.D.

REFERENCES

Kahn G: Depigmentation caused by phenolic detergent germicides. Arch Dermatol 102:177-187, 1970

Gellin GA, Possic P, Perrone V: Depigmentation from 4-tert-butylcatechol—An experimental study. J Invest Dermatol 55:190-197, 1970

McGuire J, Hendee J: Biochemical basis for depigmentation of skin by phenolic germicides. J Invest Dermatol 57:256-261, 1971

Preservatives as Sensitizers

TOPICAL MEDICATIONS MAY aggravate pre-existing skin problems by causing allergic contact dermatitis. Preservatives (antimicrobial agents) are now incriminated as common sensitizers, including parabens, chlorinated phenols, formaldehyde, mercurials, and quaternary ammonium compounds.

Parabens are present in many creams, lotions, dentifrices, and suppositories. They may sensitize if used repeatedly at concentrations of 0.05 percent, whereas concentrations up to 5.0 percent may be necessary to produce positive patch tests. Chlorinated phenols include hexachlorophenes, dichlorophene, chlorocresol, bithionol, and halogenated salicylanilides. They are found in soaps, lotions, creams, toothpastes, deodorants, and disinfectants, and are capable of photosensitization. Shampoos and nail hardeners often contain formaldehyde. Mercurials occur as mercury bichloride, thimerosal (Merthiolate®), and phenylmercuric acetate in cosmetic and therapeutic creams, eye drops, and contraceptive jellies. Quaternary ammonium compounds include benzalkonium (Zepharin®) and cetalkonium chlorides, found in disinfectants, cleansing solutions, ointments, and deodorants.

Determination of hidden sensitizers should be attempted with standardized, purified preservatives, as patch testing with topical medications is often unrevealing due to low concentrations of the sensitizers.

E. DORINDA LOEFFEL, M.D.

REFERENCES

Fisher AA, Pascher F, Kanof NB: Allergic contact dermatitis due to ingredients of vehicles. Arch Dermatol 104:286-290, 1971

Schorr WF: Cosmetic allergy. Arch Dermatol 104:459-466, 1971

Shmunes E, Levy EJ: Quaternary ammonium compound contact dermatitis from a deodorant. Arch Dermatol 105:91-93, 1972

Skin Manifestations of Drug Addiction

THE CUTANEOUS SIGNS OF DRUG addition are often the first and most obvious clues to early or unsuspected drug abuse. Most commonly seen is scarring and hyperpigmentation at injection sites, usually over veins. Also frequently encountered are abscesses and necrotic ulcerations, usually following barbiturate injections. Non-pitting edema of the hands may develop due to thrombophlebitis following intravenous injections. Fibrosis of veins, keloids, and jaundice are not rare. Patients may complain of pruritus and creeping sensations after injections. Urticaria, usually localized with flare and whealing may also occur. Tattooing from soot particles on flamed needles is seen. Accidental intra-arterial injection has resulted in ischemic gangrene of distal parts. Recently a necrotizing angiitis indistinguishable from periarteritis nodosa has been reported with drug abuse.

EDWARD A. SPRAGUE, M.D.

REFERENCES

Vallum DI: Skin lesions in drug addicts. Br Med J 2:647, 1970

Weidman AI, Fellner MJ: Cutaneous manifestations of heroin and other addictive drugs. NY State J Med 2643, 1971

Young AW, Rosenberg FR: Cutaneous signs of heroin addiction. Arch Dermatol 104:80, 1971

Citron BP: Necrotizing angiitis associated with drug abuse. N Engl J Med 283:1003, 1970

Kott J: Intra-arterial barbiturate injection in a drug addict. JAMA 218:884, 1971

Aphthous Stomatitis

APHTHOUS STOMATITIS REMAINS a diagnostic and therapeutic enigma. The recurrent necrotic oral ulcerations are often confused with Herpes sim-